AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently amended) A network node comprising:

an input module operable to receive an original scalable bit stream from a different network node and having an original bandwidth range, the original bit stream having an original base layer and an original enhancement layer;

a transcaling module operable to decode the original scalable bit stream and generate a new scalable bit stream based upon the original scalable bit stream and having a new bandwidth range, wherein the new scaleable bit stream having a new base layer that encodes at least a portion of the original enhancement layer therein and wherein the new bandwidth range corresponds to a range of bandwidth that is different from that of the original bandwidth range at least in that it has a new minimum bit rate that is different from an original minimum bit rate of the original bandwidth range; and

an output module operable to transmit said new scalable bit stream downstream.

2. (Original) The network node of claim 1, wherein said transcaling module comprises a decoder operable to decode at least a portion of the original scalable bit stream.

3. (Currently Amended) The network node of claim 2, wherein ~~the original scalable bit stream has an original base layer and an original enhancement layer, and~~ said decoder is operable to generate a first new enhancement layer and a second new enhancement layer by decoding a portion of the original enhancement layer, said transcaling module comprising a motion vector extraction module operable to extract motion vectors from the original base layer and operable to predict a next portion of said first new enhancement layer using the extracted original motion vectors.

4. (Currently Amended) The network node of claim 2, wherein ~~the original scalable bit stream has an original base layer and an original enhancement layer, and~~ said decoder is operable to generate a first new enhancement layer and a second new enhancement layer by decoding a portion of the original enhancement layer, said transcaling module comprising a motion vector generation module operable to predict a next portion of said first new enhancement layer by generating motion vectors for the first new enhancement layer.

5. (Currently Amended) The network node of claim 2, wherein ~~the original scalable bit stream has a base layer and an enhancement layer, and~~ said decoder is operable to reconstruct original media by decoding the base layer and the enhancement layer, the network node comprising an encoder operable to produce the new scalable bit stream by encoding the reconstructed media.

6. (Original) The network node of claim 1 comprising a processing power evaluation module operable to evaluate an amount of processing power available to said transcaling module.

7. (Original) The network node of claim 6, wherein said transcaling module is operable to generate the new scalable bit stream having the new bandwidth range based on the amount of available processing power.

8. (Original) The network node of claim 6, wherein said output module is operable to transmit the original scalable bit stream downstream if the amount available processing power is low.

9. (Original) The network node of claim 1 comprising a link evaluation module operable to evaluate bandwidth of links to downstream devices.

10. (Original) The network node of claim 1, wherein said transcaling module is operable to generate said new scalable bit stream having said new bandwidth range based on bandwidth of links to downstream devices.

11. (Original) The network node of claim 1, wherein said new bandwidth range is a reduced bandwidth range compared to the original bandwidth range.

12. (Currently amended) The network node of claim 1, wherein [[a]] said new minimum bit rate of said new bandwidth range is higher than [[an]] said original minimum bit rate of said original bandwidth range.

13. cancel

14. (Currently Amended) The network node of claim 1, wherein a new maximum bit rate of said ~~original~~ new scalable bit stream is lower than an original maximum bit rate of said original scalable bit stream.

15. (Original) The network node of claim 1, wherein said original scalable bit stream has an original base layer and an original enhancement layer, and said transcaling module is operable to generate a new base layer and a new enhancement layer based on said original base layer and said original enhancement layer.

16. (Original) The network node of claim 1, wherein said original scalable bit stream has an original enhancement layer, and said transcaling module is operable to decode a portion of said original enhancement layer for one picture and predict a next picture based on said decoded portion.

17. – 21. cancel

22. (Currently amended) A transcaling system, comprising:

an input module operable to receive an original scalable bit stream having an original ~~bandwidth range~~ base layer encoded at an original bit rate and an original enhancement layer encoded at a second original bit rate;

a decoder ~~operable to decode~~ embodied as computer executable instructions on a computer readable medium that decodes at least a portion of the original bit stream; ~~and~~

an encoder ~~operable to generate~~ embodied as computer executable instructions on a computer readable medium that encodes a new scalable bit stream having a new base layer and a new enhancement layer, the new scalable bit stream having been derived from the original bit stream; and

the new scalable bit stream having at least one of the new base layer encoding at least a portion of the original enhancement therein or the new enhancement layer encoding at least a portion of the original base layer therein ~~having a new bandwidth range by encoding a decoded portion of the original scalable bit stream~~.

23. (Original) The system of claim 22, comprising an output module operable to communicate the new scalable bit stream to a device.

24. (Original) The system of claim 23, wherein said output module is operable to communicate a base layer of the original scalable bit stream to the device if a bandwidth of a link to the device is low.

25. (Original) The system of claim 23 wherein said output module is operable to communicate said original scalable bit stream to the device if an amount of processing power available to said encoder and decoder is low.

26. (Original) The system of claim 22, comprising a processing power evaluation module operable to determine an amount of processing power available to said encoder and said decoder.

27. (Original) The system of claim 26, wherein said decoder is operable to decode the original scalable bit stream based on the amount of available processing power.

28. (Original) The system of claim 26, wherein said encoder is operable to encode the new scalable bit stream based on the amount of available processing power.

29. (Currently amended) The system of claim 22, wherein said new base layer is encoded at a bit rate lower than the bit rate of the original base layer. ~~bandwidth range is further defined as a reduced bandwidth range.~~

30. (Currently amended) The system of claim 22, wherein said new base layer ~~bandwidth range~~ and said new enhancement layer are based on analysis of a communications link with said device.

31. (Original) The system of claim 22, wherein said transcaling module is further operable to generate said new scalable bit stream based on processing power available to said transcalar.

32. (Currently amended) The system of claim 22, wherein ~~a new minimum bit rate of said new bandwidth range is~~ the new base layer is encoded at a bit rate higher than ~~an original minimum~~ the bit rate of said original base layer. ~~scalable bit stream~~.

33. (Currently amended) The system of claim 22, wherein ~~said original scalable bit stream has an original base layer and an original enhancement layer,~~ said decoder is operable to reconstruct original media from said original base layer and original enhancement layer, and said encoder is operable to generate the new base layer and the new enhancement layer based on said reconstructed media.

34. (Original) The system of claim 22, wherein said original scalable bit stream has an original enhancement layer, said decoder is operable to decode a portion of said original enhancement layer, and said encoder is operable to predict a next portion based on said decoded portion.

35. (Original) The system of claim 34, wherein the original scalable bit stream has a base layer, and wherein said encoder is operable to use motion vectors of said original base layer to predict the next portion.

36. (Currently amended) A transcaling method comprising:

receiving an original scalable bit stream having an original minimum bit rate over a communications network;

the original scalable bit stream having an original base layer and an original base layer;

determining a new minimum bit rate; ~~and~~

generating a new scalable bit stream having a new base layer and a new enhancement layer based on the original scalable bit stream and the determined new minimum bit rate, wherein the new minimum bit rate is either greater than the original minimum bit rate or less than the original minimum bit rate; and

the new scalable bit stream having at least one of the new base layer encoding at least a portion of the original enhancement therein and the new enhancement layer encoding at least a portion of the original base layer therein.

37. (Currently Amended) The method of claim 36, wherein said receiving ~~an~~ the original scalable bit stream comprises receiving ~~an~~ the original scalable bit stream having an original base layer and an original enhancement layer.

38. (Currently Amended) The method of claim 37, wherein said generating ~~a~~ the new scalable bit stream comprises generating a new base layer and a new enhancement layer based on said original base layer and said original enhancement layer.

39. (Currently Amended) The method of claim 37, wherein said generating ~~a~~ the new scalable bit stream comprises:

decoding a portion of said original enhancement layer for one picture; and

predicting a next picture based on said decoded portion.

40. (Original) The method of claim 36 further comprising analyzing links of devices connected to said communications network, wherein said determining new minimum bit rate is further based on said analyzed links.

41. (Currently Amended) The method of claim 36, wherein said determining ~~a~~ the new minimum bit rate comprises determining a new minimum bit rate that is higher than said original minimum bit rate, and wherein said generating ~~a~~ the new scalable bit stream comprises generating ~~a~~ the new scalable bit stream having the new minimum bit rate.

42. (Currently Amended) The method of claim 36, wherein said determining ~~a~~ the new minimum bit rate comprises determining a new minimum bit rate that is lower than said original minimum bit rate, and wherein said generating a new scalable bit stream comprises generating a new scalable bit stream having the new minimum bit rate.

43. (New) A network node comprising:

an input module operable to receive an original scalable bit stream from a different network node and having an original bandwidth range, the original bit stream having an original base layer an original enhancement layer;

a transcaling module operable to decode the original scalable bit stream and generate a new scalable bit stream based upon the original scalable bit stream and having a new bandwidth range, wherein the new scalable bit stream having a new enhancement layer that encodes at least a portion of the original base layer therein and wherein the new bandwidth range corresponds to a range of bandwidth that is different from that of the original bandwidth range at least in that it has a new minimum bit rate that is less than-an original minimum bit rate of the original bandwidth range; and

an output module operable to transmit said new scalable bit stream downstream.

44. (New) The network node of claim 43, wherein said transcaling module comprises a decoder operable to decode at least a portion of the original scalable bit stream.

45. (New) The network node of claim 44, wherein said decoder is operable to reconstruct original media by decoding the base layer and the enhancement layer, the network node comprising an encoder operable to produce the new scalable bit stream by encoding the reconstructed media.

46. (New) The network node of claim 1 comprising a processing power evaluation module operable to evaluate an amount of processing power available to said transcaling module and said transcaling module is operable to generate the new scalable bit stream having the new bandwidth range based on the amount of available processing power..

47. (New) The network node of claim 6, wherein said output module is operable to transmit the original scalable bit stream downstream if the amount available processing power is low.

48. (New) The network node of claim 1 comprising a link evaluation module operable to evaluate bandwidth of links to downstream devices and said transcaling module is operable to generate said new scalable bit stream having said new bandwidth range based on bandwidth of links to downstream devices.

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